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Notice of Allowability	Application No.	Applicant(s)	
	10/600,120	CHANG, RICHARD	
	Examiner	Art Unit	
	Linh M. Nguyen	2816	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed 11/17/2004.
2. ☒ The allowed claim(s) is/are 1-33.
3. ☒ The drawings filed on 20 June 2003 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date <u>01/25/2005</u> . |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

DETAILED ACTION

This is a reply to the Applicant's amendment submitted on 11/17/2004. According to this amendment, claims 1-33 are currently presented in the instant application.

Examiner's Amendment

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it must be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Steven Cahill on 01/25/2005.

The Examiner's Amendment includes:

CLAIMS:

Claim 20, line 9, after "signal", insert --, wherein each increase in the phase of the output clock signal coincides with an edge of the phase forward clock signal--.

Allowable Subject Matter

2. Claims 1-33 are allowed.

Reasons for Allowance

3. The following is an examiner's statement of reasons for allowance:

The closest prior art fails to disclose or fairly suggest:

a) A method for changing a phase of a clock signal, in which the phases of the selected and phase forward clock signals remain constant until another edge of the phase change signal, in combination with the remaining claimed limitations, as called for in independent claim 1;

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b) A method for changing a phase of an output clock signal, in which each increase in phase of first and the second clock signals is synchronized with an edge of the second clock signal, in combination with the remaining claimed limitations, as called for in independent claim 7;

c) A method for changing a phase of an output clock signal, in which the phases of the first and the second clock signals are shifted backward when a directional signal is a first value, and the phases of the first and the second clock signals are shifted forward when the directional signal is a second value, in combination with the remaining claimed limitations, as called for in independent claim 9;

d) A phase shift selection circuit, in which each shift in the phase of the output clock signal coincides with an edge of one of the phase forward and the output clock signals, in combination with the remaining claimed limitations, as called for in independent claim 12;

e) A phase shift selection circuit including a third multiplexer that selectively couples the output clock signal and the phase forward signal to an input of the phase selection circuit, in combination with the remaining claimed limitations, as called for in independent claim 16;

d) A phase shift selection circuit, which increases the phases of the output clock signal and the phase forward signal by $360^\circ/N$ on an edge of the phase forward signal when a directional signal is a first value, and the phase shift selection circuit decreases the phases of the output clock signal and the phase forward signal by $360^\circ/N$ on an edge of the output clock signal when the directional signal is a second value, in combination with the remaining claimed limitations, as called for in independent claim 17;

e) A phase shift selection circuit, in which the phase shift selection circuit is a counter circuit that generates first and second count signals that control the first and the second multiplexers, respectively, values of the first and the second count signals changing in response to the phase change signal, in combination with the remaining claimed limitations, as called for in independent claim 18;

f) A phase shift selection circuit, which is a cyclic shift register that generates a first set and second set of digital signals that control the first and the second multiplexers, respectively, values of the first and the second sets of digital signals shifting in response to the phase change signal, in combination with the remaining claimed limitations, as called for in independent claim 19;

g) A phase shift selection circuit, in which each increase in the phase of the output clock signal coincides with an edge of the phase forward clock signal, in combination with the remaining claimed limitations, as called for in independent claim 20;

h) A method for changing a phase of a clock signal, in which each increase in the phase of the selected clock signal coincides with an edge of the phase forward clock signal, in combination with the remaining claimed limitations, as called for in independent claim 28;

i) A delay locked loop circuit, in which the phases of the output clock signal and phase forward signal remain constant until another edge of the phase change signal, in combination with the remaining claimed limitations, as called for in independent claim 29; and

j) A phase locked loop circuit, in which each increase in the phase of the output clock signal is synchronized with an edge of the phase forward signal, in combination with the remaining claimed limitations, as called for in independent claim 32.

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Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Inquiry

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Linh M. Nguyen whose telephone number is (571) 272-1749. The examiner can normally be reached on Alternate Fri, Monday - Thursday from 7:00 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy P. Callahan can be reached on (571) 272-1740. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Linh M. Nguyen
Primary Examiner
Art Unit 2816

LMN

